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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,320	01/16/2004	Kun-Ying Tsai	60569 (71987)	8365

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EXAMINER

BORKOWSKI, ROBERT

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/759,320	<b>Applicant(s)</b> TSAI, KUN-YING	
	<b>Examiner</b> Robert Borkowski	<b>Art Unit</b> 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:

On page 9, line 4, "f" should be changed to –of–.

On page 9, line 11, "104" should be changed to –102– because it appears to the examiner that "the read-out index 104" refers to Fig. 2A element 102.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112, second paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1 recites the limitation " the main memory unit bus requesting module " in step (2), lines 6-7. There is insufficient antecedent basis for this limitation in the claim.

As to claim 1 recites the limitation " the valid byte length " in step (4), line

1. There is insufficient antecedent basis for this limitation in the claim.

As to claim 1 recites the limitation " the preset burst length " in step (4), line 2. There is insufficient antecedent basis for this limitation in the claim.

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Clarification and/or correction are required.

As per claims 2-8 are rejected, they are unclear and indefinite because they depend on claim 1, and hence, inherit their indefiniteness.

***Claim Rejections - 35 USC § 112, first paragraph***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim 1, step (2) cites "determining via a main memory bus requesting module whether the packet data length exceeds preset capacity of packet data storage in the main memory unit, whether if yes, a usage request is no longer sent to the main memory unit bus the packet data finish, or if no, the main memory unit bus requesting module sends the usage request to the main memory unit bus;". The specification does not have the above step instead it has the opposite, page 10 lines 22-24, and Fig. 3B element S208.

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5. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Determining via a data length calculating module whether a sending data byte is the end of the packet data; if no step is missing and it is critical to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The claim does not provide a step when the sending data byte is not the end of the packet data. The examiner does not know if the method goes back to step (2) or it stops all at once.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (U.S. Patent No. 6,397,287).

As to claim 1, Brown et al. discloses:

a CPU (column 6 lines 20-41, Fig. 1 element 12),

a main memory unit bus (column 6 lines 20-49, Fig. 1 element 22),

a network communication system connecting module (column 6 line 50 thru column 7 line 16, Fig. 1 element 20),

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a main memory unit (column 6 lines 20-40, Fig. 1 element 16),  
when a data byte is written to a buffer memory unit (Fig. 1 elements 23 and 25), adding a write-in index address in a register by one (column 14 lines 28-61 Fig. 6a-c); when a data byte is read out from the buffering memory unit, adding a read-out index address in the register by one (column 14 lines 28-61 Fig. 6(a)-6(c));

determining via a valid data calculating mode (column 2 line 55 thru column 3 line 5, column 13 lines 55-61) whether the number of valid packet data in the buffering memory unit exceeds a preset main memory unit but requesting threshold (column 14 lines 28-61, Fig. 6a-c); if no, repeating step (2) (Fig. 7); if yes, determine via a main memory bus requesting module (column 6 line 50 thru column 7 line 16, Fig. 1 element 21) whether the packet data length exceeds preset capacity of packet data storage in the main memory unit (column 14 lines 28-61, Fig. 7), wherein if yes, a usage request is no longer sent to the main memory unit bus, or if no, the main memory unit bus requesting module sends the usage request to the main memory unit bus (column 14 lines 28-61, Fig. 7);

determining via a data length calculating module (column 2 line 55 thru column 3 line 5) whether a sending data byte is the end of the packet data; if yes, calculate the length of this data byte (column 14 lines 28-61, Fig. 6a-c); and

having a burst length determining module (column 14 lines 28-61)  
compare the valid data byte length, the packet data length and the preset burst length in the buffering memory unit, and select the least one as a burst length value (column 2 line 52 thru column 3 line 32).

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As to claims 2, 10, Brown et al. discloses wherein the network communication system connecting module comprises:

a buffer memory unit (Fig. 1 elements 23 and 25) controlled by the network communication system connecting module (Fig. 1 element 20) for data access of the buffering memory unit, and for providing a specific area for holding data to be sent or received (column 6 line 50 thru column 7 line 16);

a valid data calculating mode (column 2 line 55 thru column 3 line 5, column 13 lines 55-61) controlled by the network communication system connecting module and for calculating the number of valid data in the buffering memory unit (column 2 line 55 thru column 3 line 5) for the dynamic length calculating system;

a data length calculating module (column 2 line 55 thru column 3 line 5) controlled by the network communication system connecting module, and for calculating the length of a data byte (column 2 line 55 thru column 3 line 5) waiting to be transferred for the dynamic length calculating system;

a main memory unit bus requesting module (column 6 line 50 thru column 7 line 16, Fig. 1 element 21) controlled by the network communication system connecting module, and for determining whether the number of valid data (column 2 line 52 thru column 3 line 5) in the buffer memory unit calculated by the valid data calculating module exceeds a preset value (column 13 lines 55-61, Fig. 1 element 21) and for determining whether the data length exceeds preset capacity of data storage in the main memory unit (column 2 line 52 thru column 3 line 5), so as to send the usage request to the main memory unit bus in case of

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the data length not exceeding the preset capacity of data storage (column 3 lines 25-32); and

a burst length determining module (column 14 lines 28-61) controlled by the network communication system connecting module, and for determining the length of burst data byte for the dynamic burst length calculating system.

As to claim 3, Brown et al. discloses wherein if the sending data byte is not the end of the packet data, a data end index address is set to infinity (column 15 lines 10-32).

As to claim 4, Brown et al. discloses wherein after the length of the sending data byte is calculated, further comprising a step of: adding a clock delay to the end of the packet data to distinguish different packets (column 10 lines 29-65, column 15 line 33 thru column 16 line 10).

As to claims 5, 11, Brown et al. discloses wherein the network communication system connecting module is a network interface card (Abstract, column 5 line 66 thru column 6 line 19, Fig. 1 element 20).

As to claims 6, 12, Brown et al. discloses wherein the network communication system connecting module is connected to a network communication system (Fig. 1 elements 20 and 24).

As to claims 7, 13, Brown et al. discloses wherein the network communication system is a Local Area Network (column 2 lines 38-52).

As to claims 8, 14, Brown et al. discloses wherein the LAN has Ethernet system architecture or Fats Ethernet system architecture (column 6 lines 20-40).



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As to claim 9, Brown et al. discloses a dynamic burst length calculating system (Abstract) for providing a data processing system through a dynamic burst length calculating method, so as to increase usage efficiency of a main memory unit bus (column 2, line 52 thru column 3 line 5) and protect operation of the data processing system against effects from abnormal data; the dynamic burst length calculating system comprises:

a CPU (column 6 lines 20-41, Fig. 1 element 12) for providing interoperability between components and modules of the dynamic length calculating system (Fig. 1 element 10);

a main memory unit bus (column 6 lines 20-49, Fig. 1 element 22) for providing a hardware path for transferring data between the CPU and a plurality of memory units (Fig. 1 elements 23 and 15) of the burst dynamic length calculating system;

a network communication system connecting module (column 6 line 50 thru column 7 line 16, Fig. 1 element 20) for sending and receiving data for the dynamic burst length calculating system; and

a main memory unit (column 6 lines 20-40, Fig. 1 element 16) connected to the CPU and for storing data of the data processing system for being processed by the CPU (column 6 line 50 thru column 7 line 16).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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U.S. Patent No. 6,799,229 to Lin discloses a system which prevents the forwarding of unwanted data to a DMA, thereby optimizing DMA bandwidth.

U.S. Patent Application No. US2004/0049614 to Liang discloses a dynamically adjustable current data transfer level based on burst lengths occur as a processor kernel accesses data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Borkowski whose telephone number is 571-272-8626. The examiner can normally be reached on Monday - Friday 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 571-272-4083. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Robert Borkowski

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November 30, 2005

  
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